

533,080

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 May 2004 (13.05.2004)

PCT

(10) International Publication Number
WO 2004/039343 A1

(51) International Patent Classification⁷: **A61K 7/24**, 7/18

c/o KAO CORPORATION RESEARCH LABORATORIES, 1-3, Bunka 2-chome, Sumida-ku, Tokyo 131-8501 (JP).

(21) International Application Number:

PCT/JP2003/014035

(22) International Filing Date: 31 October 2003 (31.10.2003)

(74) Agents: **KISHIMOTO**, Tatsuhito et al.; c/o TOKYO CENTRAL PATENT FIRM, 4th Floor, Oak Building Kyobashi, 16-10, Kyobashi 1-chome, Chuou-ku, Tokyo 104-0031 (JP).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2002-356013	31 October 2002 (31.10.2002)	JP
2002-346534	28 November 2002 (28.11.2002)	JP
2002-382568	27 December 2002 (27.12.2002)	JP

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*): **KAO CORPORATION** [JP/JP]; 14-10, Nihonbashi Kayaba-cho 1-chome, Chuo-ku, Tokyo 103-8210 (JP).

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **KATO**, Kazuhiko [JP/JP]; c/o KAO CORPORATION RESEARCH LABORATORIES, 1-3, Bunka 2-chome, Sumida-ku, Tokyo 131-8501 (JP). **MURAKAMI**, Yoshinori [JP/JP]; c/o KAO CORPORATION RESEARCH LABORATORIES, 1-3, Bunka 2-chome, Sumida-ku, Tokyo 131-8501 (JP). **MUROI**, Yoshiyuki [JP/JP]; c/o KAO CORPORATION RESEARCH LABORATORIES, 1-3, Bunka 2-chome, Sumida-ku, Tokyo 131-8501 (JP). **TONOMURA**, Manabu [JP/JP]; c/o KAO CORPORATION RESEARCH LABORATORIES, 1-3, Bunka 2-chome, Sumida-ku, Tokyo 131-8501 (JP). **KASHIWAGI**, Mitsuyoshi [JP/JP];

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ORAL PREPARATION AND CHEWING GUM

(57) Abstract: The invention provides an oral preparation or a chewing gum comprising an organic acid and/or inorganic acid and a fluoride ion supplying compound, wherein a light scattering layer is formed inside enamel of the teeth when the oral preparation or the chewing gum is applied to teeth. An internal tooth colored layer in the enamel is masked by the light scattering layer, and a white appearance is imparted to the teeth.

WO 2004/039343 A1